



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,367	09/30/2003	Liang Jiang	132347-1	5979
23413	7590	05/24/2007		
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			EXAMINER ROE, JESSEE RANDALL	
			ART UNIT 1742	PAPER NUMBER
			MAIL DATE 05/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/675,367

Applicant(s)

JIANG ET AL.

Examiner

Jessee Roe

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-2 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) 11-18, 20 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-10 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claims Status

Claims 1-2, 4-10 and 19 remain for examination wherein claims 1 and 6 are amended, claim 3 is canceled, and claims 11-18 and 20-21 are withdrawn from consideration.

Status of Previous Rejections

The previous rejection of claims 1-2, 4-10 and 19 under 35 U.S.C 102(b) as being anticipated by Shaw (US 4,039,330) is withdrawn in view of the Applicant's amendments to the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-8, 10 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (US 3,976,480).

In regards to claim 1, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy comprising a composition as shown in the table on the following page.

Element	From Instant Claims (in wt%)	Alloy B of Watanabe ('480) (in wt%)	Alloy B of Watanabe ('480) (in at%)
C	about 0.02 to about 0.15	0.14	0.675
Cr	about 14 to about 28	15.5	17.270
Co	about 10 to about 23	10.2	10.027
Nb	up to about 3	0	0
Mo	-	3.1	1.872
W	-	5.9	1.859
Ti	about 1.50 to about 4.50	4.1	4.961
Al	about 1.50 to about 4.50	2.6	5.582
Zr	up to about 0.20	0.06	0.038
B	about 0.001 to about 0.025	0.017	0.091
Ni	Remainder	58.383	57.625

Still regarding claim 1, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy devoid of tantalum with a composition as shown above. The essential weight percentages of carbon, chromium, cobalt, aluminum, titanium, niobium, zirconium and boron are present. The weight percentages were converted to atomic percentages and are shown in column above. The atomic ratio of aluminum to titanium is 1.125, which would be within the range of about 0.5 to about 1.5.

In regards to claim 2, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy with a composition as shown above. The combined weight percentage of titanium and aluminum would be 6.7, which would be within the range of about 3 to about 9 weight percent.

In regards to claim 4, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy with a composition as shown above. The combined weight percentage of titanium, aluminum, and niobium would be 6.7, which would be within the range of about 3 to about 12 weight percent.

Art Unit: 1742

In regards to claim 5, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy with a composition as shown above. The weight percent of nickel is 58.383 weight percent, which would be within the range of about 40 to about 70 weight percent.

In regards to claim 6, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy with a composition as shown above. Cobalt, carbon, zirconium, tungsten, and boron are present.

In regards to claim 7, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy with a composition as shown above. The weight percent of cobalt is 10.2 weight percent, which would be within the range of about 10 to about 23 weight percent.

In regards to claim 8, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy with a composition as shown above. The weight percent of carbon is 0.14 weight percent, which would be within the range of about 0.02 to about 0.15 weight percent.

In regards to claim 10, Watanabe ('480) discloses (Table 2, Alloy B) a nickel-containing alloy with a composition as shown above. The weight percent of boron is 0.017 weight percent, which would be within the range of about 0.001 to about 0.025 weight percent.

In regards to claim 19, Watanabe ('480) discloses wherein the nickel-containing alloy would be used as a turbine blade of a gas turbine (col. 5, lines 21-28).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (US 3,976,480).

In regards to claims 1 and 7-10, Watanabe ('480) discloses (abstract) a nickel-containing alloy comprising a composition as shown in the table below.

Element	From Instant Claims (in wt%)	Watanabe ('480) (in wt%)	Overlapping Range
C	about 0.02 to about 0.15	0.05 – 0.25	0.05 – 0.15
Cr	about 14 to about 28	15 – 17.5	15 – 17.5
Co	about 10 to about 23	5 – 15	about 10 – 15
Nb	up to about 3	0	0
Mo	-	0 – 6	0
W	about 1 to about 3	3 – 13	3
Ti	about 1.50 to about 4.50	3.5 – 4.5	3.5 – 4.5
Al	about 1.50 to about 4.50	1.5 – 3	1.5 – 3
Zr	up to about 0.20	0 – 0.5	0 – about 0.20
B	about 0.001 to about 0.025	0 – 0.05	about 0.001 – 0.025
Ni	Remainder	Remainder	Remainder

In regards to the claimed content of Nb, the claim language “up to” indicates that the composition within the nickel-based alloy may be 0 weight percent.

With respect to the atomic ratio of aluminum to titanium being about 0.5 to about 1.5, the Examiner asserts that the ratio of aluminum to titanium would be within the claimed range.

The Examiner notes that the composition of the nickel-based alloy, devoid of tantalum, of Watanabe ('480) overlaps the composition of the instant invention, which would be a prima facie case of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the desired amounts of carbon, chromium, cobalt, tungsten, titanium, aluminum, zirconium, and boron from that of Watanabe ('480) because Watanabe ('480) discloses the same utility (nickel-containing alloys) throughout the disclosed ranges.

In regards to claim 2, Watanabe ('480) discloses a nickel-containing alloy with 5 – 7.5 weight percent aluminum and titanium (abstract), which would be within the about 3 to about 9 weight percent aluminum and titanium limitation.

In regards to claim 4, Watanabe ('480) discloses a nickel-containing alloy with 5 – 7.5 weight percent aluminum and titanium (abstract), which would be within the about 3 to about 12 weight percent aluminum, titanium, and niobium limitation.

In regards to claim 5, Watanabe ('480) discloses a nickel-containing alloy that would have between about 40.2 and 71.95 weight percent, which would be within the about 40 to about 70 weight percent limitation (abstract).

In regards to claim 6, Watanabe ('480) discloses wherein the alloy would comprise cobalt, carbon, zirconium, tungsten, and boron (abstract).

In regards to claim 19, Watanabe ('480) discloses wherein the nickel-containing alloy would be used as a turbine blade of a gas turbine (col. 5, lines 21-28).

Response to Arguments

Applicant's arguments with respect to claim 1-2, 4-10 and 19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:30 PM.

Art Unit: 1742

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JR


ROY KING
SUPERVISORY PATENT EXAM
TECHNOLOGY CENTER 1742